WD Re™

Datacenter Capacity HDD

Performance-optimized high-capacity storage for high-intensity applications.

With advanced technology that delivers consistent high performance in a multitude of applications, and with up to ten times the workload capability of desktop drives, the WD Re drive is the workhorse of WD's datacenter portfolio. The WD Re drive is perfect for high-availability storage arrays that demand a robust storage device, and the drive's high performance, capacity and reliability make it ideal for data warehousing/mining and high-performance computing. The WD Re is available with a SATA interface for maximum flexibility and compatibility.

INTERFACE	WIDTH/HEIGHT	ROTATIONAL SPEED	CAPACITIES
SATA 6 Gb/s	3.5-inch/1-inch	7200 RPM	250 GB to 6 TB

MODEL NUMBERS

WD6001FSYZ	WD5001FXYZ	WD200MFYYZ
WD6001FXYZ	WD4000FYYZ	WD1003FBYZ
WD5001FYYZ	WD3000FYYZ	WD5003ABYZ
WD5001FSYZ	WD2000FYYZ	WD2503ABYZ

Product Benefits

High capacity nearline drive
Massive capacities up to 6 TB suit even the most demanding datacenter, enterprise server, or cloud storage needs.

Designed for high-intensity applications
Designed to handle workloads up to 550 TB per year – among the highest workload capability of any 3.5-inch hard drive – delivering both performance and reliability to any datacenter environment.

Designed for quality and reliability
With up to 1.2 million hour MTBF, this high performance drive delivers durability and reliability for 24x7x365 operation in the most demanding storage environments.

Vibration Protection
Enhanced RAFF™ technology includes sophisticated electronics to monitor the drive and correct both linear and rotational vibration in real time. The result is a significant performance improvement in high vibration environments over desktop drives.

Dual actuator technology (2 TB and above)
A head positioning system with two actuators that improves positional accuracy over the data track(s). The primary actuator provides coarse displacement using conventional electromagnetic actuator principles. The secondary actuator uses piezoelectric motion to fine tune the head positioning to a higher degree of accuracy.

StableTrac™
The motor shaft is secured at both ends to reduce system-induced vibration and stabilize platters for accurate tracking during read and write operations. (2 TB and above)

Multi-axis shock sensor
Automatically detects the subtlest shock events and compensates to protect the data.

RAID-specific, time-limited error recovery (TLER)
Reduces drive fallout caused by the extended hard drive error-recovery processes common to desktop drives.

NoTouch™ ramp load technology
The recording head never touches the disk media ensuring significantly less wear to the recording head and media as well as better drive protection in transit.

Thermal extended burn-in test
Each drive is put through extended burn-in testing with thermal cycling to ensure reliable operation.

Dynamic fly height technology
Each read-write head's fly height is adjusted in real time for optimum reliability.

Applications

Online analytical processing (OLAP), data warehousing/mining, high-performance computing, high-end NAS/SAN and surveillance systems, and high-availability cloud storage arrays.

The WD Advantage

WD puts our datacenter products through extensive Functional Integrity Testing (F.I.T.) prior to any product launch. This testing ensures our products consistently meet the high quality and reliability standards of the WD brand. Following a FIT test the Enterprise System Group (ESG) testing validates interoperability with HBAs, operating systems and drivers to ensure an even greater level of quality, reliability and peace of mind.

WD also has a detailed Knowledge Base with helpful articles and software utilities. Our customer support lines have long operational hours to ensure you get the help you need when you need it. Our toll-free customer support lines are here to help or you can access our WD Support site for additional details.

Specifications	6 TB	5 TB	5 TB	4 TB
512 native model number[1]	—	—	WD5001FYYZ	WD4000FYYZ
512 emulation model number[1]	WD6001FSYZ	WD5001FSYZ	—	—
4K native model number[1]	WD6001FXYZ	WD5001FXYZ	—	—
Interface	SATA 6 Gb/s	SATA 6 Gb/s	SATA 6 Gb/s	SATA 6 Gb/s
Formatted capacity[2]	6 TB	5 TB	5 TB	4 TB
512n/512e user sectors per drive	11,721,045,168	9,767,541,168	9,767,541,168	7,814,037,168
4Kn user sectors per drive	1,465,130,646	1,220,942,646	—	—
Native command queuing	Yes	Yes	Yes	Yes
Form factor	3.5-inch	3.5-inch	3.5-inch	3.5-inch
RoHS compliant[3]	Yes	Yes	Yes	Yes
Performance				
Data transfer rate (max)[2] Buffer to host Host to/from drive (sustained)	 6 Gb/s 225 MB/s	 6 Gb/s 225 MB/s	 6 Gb/s 194 MB/s	 6 Gb/s 171 MB/s
Cache (MB)	128	128	128	64
Rotational speed (RPM)	7200	7200	7200	7200
Reliability/Data Integrity				
Load/unload cycles[4]	600,000	600,000	600,000	600,000
Non-recoverable read errors per bits read	<1 in 10^{15}	<1 in 10^{15}	<1 in 10^{15}	<1 in 10^{15}
MTBF (hours)[5]	1,200,000	1,200,000	1,200,000	1,200,000
AFR (%)[5]	0.73	0.73	0.73	0.73
Limited warranty (years)[6]	5	5	5	5
Power Management				
Average power requirements (W) Sequential read Sequential write Random read/write Idle	 9.4 9.2 10.6 7.5	 9.4 9.2 10.6 7.5	 9.4 9.2 10.6 7.5	 9.6 9.5 11.9 8.1
Environmental Specifications[7]				
Temperature (°C) Operating Non-operating	 5 to 60 -40 to 70	 5 to 60 -40 to 70	 5 to 60 -40 to 70	 5 to 55 -40 to 70
Shock (Gs) Operating (2 ms, read/write) Operating (2 ms, read) Non-operating (2 ms)	 30 65 300	 30 65 300	 30 65 300	 30 65 300
Acoustics (dBA)[8] Idle Seek (average)	 31 34	 31 34	 31 34	 31 34
Physical Dimensions				
Height (in./mm, max)	1.028/26.1	1.028/26.1	1.028/26.1	1.028/26.1
Length (in./mm, max)	5.787/147	5.787/147	5.787/147	5.787/147
Width (in./mm, ± .01 in.)	4/101.6	4/101.6	4/101.6	4/101.6
Weight (lb./kg, ± 10%)	1.58/0.72	1.58/0.72	1.58/0.72	1.66/0.75

[1] Not all products may be available in all regions of the world.

[2] As used for storage capacity, one megabyte (MB) = one million bytes, one gigabyte (GB) = one billion bytes, and one terabyte (TB) = one trillion bytes. Total accessible capacity varies depending on operating environment. As used for buffer or cache, one megabyte (MB) = 1,048,576 bytes. As used for transfer rate or interface, megabyte per second (MB/s) = one million bytes per second, and gigabit per second (Gb/s) = one billion bits per second. Effective maximum SATA 6 Gb/s transfer rate calculated according to the Serial ATA specification published by the SATA-IO organization as of the date of this specification sheet. Visit www.sata-io.org for details.

[3] WD hard drive products manufactured and sold worldwide after June 8, 2011, meet or exceed Restriction of Hazardous Substances (RoHS) compliance requirements as mandated by the RoHS Directive 2011/65/EU.

[4] Controlled unload at ambient condition.

[5] Product MTBF and AFR specifications are based upon a 40°C base casting and system workloads of up to 550 TB/year (workload is defined as the amount of user data transferred to or from the hard drive).

[6] The term of the limited warranty is region specific. Visit http://support.wd.com/warranty for details.

[7] No non-recoverable errors during operating tests or after non-operating tests.

[8] Sound power level.

Specifications	3 TB	2 TB	2 TB	1 TB	500 GB	250 GB
512 native model number[1]	WD3000FYYZ	WD200MFYYZ	WD2000FYYZ	WD1003FBYZ	WD5003ABYZ	WD2503ABYZ
Interface	SATA 6 Gb/s	SATA 6 Gb/s	SATA 6 Gb/s	SATA 6 Gb/s	SATA 6 Gb/s	SATA 6 Gb/s
Formatted capacity[2]	3 TB	2 TB	2 TB	1 TB	500 GB	251 GB
User sectors per drive	5,860,533,168	3,907,029,168	3,907,029,168	1,953,525,168	976,773,168	490,350,672
Native command queuing	Yes	Yes	Yes	Yes	Yes	Yes
Form factor	3.5-inch	3.5-inch	3.5-inch	3.5-inch	3.5-inch	3.5-inch
RoHS compliant[3]	Yes	Yes	Yes	Yes	Yes	Yes
Performance						
Data transfer rate (max) Buffer to host Host to/from drive (sustained)	 6 Gb/s 168 MB/s	 6 Gb/s 164 MB/s	 6 Gb/s 164 MB/s	 6 Gb/s 128 MB/s	 6 Gb/s 128 MB/s	 6 Gb/s 128 MB/s
Cache (MB)	64	64	64	64	64	64
Rotational speed (RPM)	7200	7200	7200	7200	7200	7200
Reliability/Data Integrity						
Load/unload cycles[4]	600,000	600,000	600,000	600,000	600,000	600,000
Non-recoverable read errors per bits read	<1 in 10^{15}[7]	<1 in 10^{15}[7]	<1 in 10^{15}[7]	<1 in 10^{15}[7]	<1 in 10^{15}[7]	<1 in 10^{15}[7]
MTBF (hours)[5]	1,200,000	1,200,000	1,200,000	1,200,000	1,200,000	1,200,000
AFR (%)[5]	0.73	0.73	0.73	0.73	0.73	0.73
Limited warranty (years)[6]	5	5	5	5	5	5
Power Management						
Average power requirements (W) Sequential read Sequential write Random read/write Idle	 9.6 9.5 11.9 8.1	 9.6 9.5 11.9 8.1	 7.7 7.6 9.1 6.2	 8.2 8.3 8.6 5.9	 6.5 6.4 6.3 4.4	 6.5 6.4 6.3 4.4
Environmental Specifications[7]						
Temperature (°C) Operating Non-operating	 5 to 55 -40 to 70	 5 to 55 -40 to 70	 5 to 55 -40 to 70	 5 to 55 -40 to 70	 5 to 55 -40 to 70	 5 to 55 -40 to 70
Shock (Gs) Operating (2 ms, read/write) Operating (2 ms, read) Non-operating (2 ms)	 30 65 300	 30 65 300	 30 65 300	 30 65 300	 30 65 350	 30 65 350
Acoustics (dBA)[8] Idle Seek (average)	 31 34	 31 34	 31 34	 28 33	 27 30	 27 30
Physical Dimensions						
Height (in./mm, max)	1.028/26.1	1.028/26.1	1.028/26.1	1.028/26.1	1.028/26.1	1.028/26.1
Length (in./mm, max)	5.787/147	5.787/147	5.787/147	5.787/147	5.787/147	5.787/147
Width (in./mm, ± .01 in.)	4/101.6	4/101.6	4/101.6	4/101.6	4/101.6	4/101.6
Weight (lb./kg, ± 10%)	1.66/0.75	1.66/0.75	1.55/0.70	1.49/0.68	0.99/0.45	0.99/0.45

[1] Not all products may be available in all regions of the world.

[2] As used for storage capacity, one megabyte (MB) = one million bytes, one gigabyte (GB) = one billion bytes, and one terabyte (TB) = one trillion bytes. Total accessible capacity varies depending on operating environment. As used for buffer or cache, one megabyte (MB) = 1,048,576 bytes. As used for transfer rate or interface, megabyte per second (MB/s) = one million bytes per second, and gigabit per second (Gb/s) = one billion bits per second. Effective maximum SATA 6 Gb/s transfer rate calculated according to the Serial ATA specification published by the SATA-IO organization as of the date of this specification sheet. Visit www.sata-io.org for details.

[3] WD hard drive products manufactured and sold worldwide after June 8, 2011, meet or exceed Restriction of Hazardous Substances (RoHS) compliance requirements as mandated by the RoHS Directive 2011/65/EU.

[4] Controlled unload at ambient condition.

[5] Product MTBF and AFR specifications are based upon a 40°C base casting and system workloads of up to 550 TB/year (workload is defined as the amount of user data transferred to or from the hard drive).

[6] See http://support.wd.com/warranty for regional specific warranty details.

[7] No non-recoverable errors during operating tests or after non-operating tests.

[8] Sound power level.

Western Digital
3355 Michelson Drive, Suite 100
Irvine, California 92612
U.S.A.

For service and literature:

http://support.wd.com
www.wd.com

800.ASK.4WDC (800.275.4932)	North America
800.832.4778	Spanish
+86.21.2603.7560	Asia Pacific
00800.27549338	Europe (toll free where available)
+31.880062100	Europe/Middle East/Africa

CAN ICES-3 (B) / NMB-3 (B)

Western Digital, WD, and the WD logo are registered trademarks in the U.S. and other countries; and WD Re, RAFF, NoTouch, StableTrac, and FIT Lab are trademarks of Western Digital Technologies, Inc. Other marks may be mentioned herein that belong to other companies. Product specifications subject to change without notice.

© 2015 Western Digital Technologies, Inc. All rights reserved.

2879-800044-A00 Feb 2015